

REMARKS

This is intended as a full and complete response to the Office Action dated March 21, 2008, having a shortened statutory period for response set to expire on June 21, 2008. Please reconsider the claims pending in the application for reasons discussed below.

Claims 30, 31 and 33-58 remain pending in the application and are shown above. Claims 30, 31, 37, 39-45 and 48-58 stand rejected and claims 33-36, 38, 46 and 47 stand withdrawn by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claims 30, 42-43, 50, and 56 are amended to clarify the claimed subject matter. Basis for amendment to claims 30, 42-43, 50, and 56 can be found in page 9 lines 9 to 15 of the specification. Claim 31 is amended to correct matters of form. New claims 59 and 60 are added to further clarify claimed subject matter. Support for new claims 59 and 60 can be found in page 10 lines 1-10 of the specification. Applicant submits that no new matter has been introduced in this amendment.

Interview Summary

As an initial matter, Applicant thanks the Examiner for granting a telephone interview, which was held on May 19, 2008 between Keith M. Tackett (an attorney of record) and Examiner Roberto Velez.

The pending claims, reference *Jenkins et al.* (U.S. Patent No. 6,437,596), and the interpretation of the term "drive circuit" were discussed during the interview. The Examiner indicated that limitations to "drive circuit" are not structural limitations, but would be considered as structural limitations if re-written in "means for" language.

Claim Rejections – 35 U.S.C. § 103

Claims 42-45, 48 and 56 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins et al* (U.S. Patent No. 6,437,596, hereafter *Jenkins*). Applicant respectfully traverses the rejection.

Jenkins discloses a test apparatus configured to provide a flexible interface between a testing system and a display array being tested so that the testing system can be used to test various display arrays (Abstract). *Jenkins* teaches selectively connecting probe pads 21, 23 to one or more pixel cells 12 through select/hold circuitry 17, 19, which are controlled by signals from select control pads 25, 29 respectively (Figure 1A-3, column 2 lines 46-63, column 3 line 47 to column 6 line 42). However, *Jenkins* does not teach or suggest subject matter set forth in the pending claims as amended.

The Examiner asserts that the control pads 29 of *Jenkins* are equivalent to operational contact areas of the pending claims, the select/hold circuitry 19 of *Jenkins* is equivalent to a drive circuit in the pending claims, and the probe pad 23 of *Jenkins* is equivalent to test contact areas of the pending claims.

Applicant respectfully submits that *Jenkins* does not teach or suggest the select/hold circuitry 19 is equivalent to the drive circuit as set forth in the pending claims. *Jenkins* teaches the select/hold circuitry 19 selectively coupling the probe pad 23 to a group of data lines 18 (DL₀-DL₃) using control signals from the control pads 29 (Figure 3, column 3 lines 25-32, column 5 lines 43-46). The data lines 18 are further connected to the pixel cells 12 to be tested (Figure 1A). Therefore, the select/hold circuitry 19 of *Jenkins* is simply a switch connecting and disconnecting a signal from the probe pad 23 and the pixel cells 12. Accordingly, *Jenkins* does not teach or suggest a drive circuit means for receiving external signal, means for modifying the external signal, and means for providing the modified signal to a matrix of picture elements, as set forth in the pending claims. Additionally, *Jenkins* also does not teach or suggest the select/hold circuitry 19 as a drive circuit known to people skilled in the art because *Jenkins* further teaches a drive module 34 connected with the probe pad 23 (Figure 1A).

Applicant further submits that *Jenkins* does not teach or suggest the probe pad 23 and the control pads 29 are respectively equivalent to the testing contact areas and operational contact areas as set forth in the pending claims. *Jenkins* teaches that the control pads 29 and the probe pad 23 are connected different terminals of a select logic 301 in the select/hold circuitry 19 (Figure 3). The control pads 29 provide control signal to the select logic which selectively connects signals from the probe pad 23 to the data

lines 18 (Figure 3, column 5 line 43 to column 6 line 26). The control pads 29 and the probe pad 23 are connected to different terminals of the select logic 301 while the test contact areas and operational contact areas are connected to the same means for receiving external signals. Additionally, the control pads 29 and the probe pad 23 must work together while the test contact areas and operational contact areas work alternatively during test mode and normal mode. Therefore, *Jenkins* does not teach or suggest test contact areas connected to means for receiving external signals and operational contact areas also connected to the means for receiving external signals as set forth in the pending claims.

Therefore, *Jenkins* does not teach or suggest an arrangement of test contact areas for an optoelectronic device comprising a matrix of picture elements comprising at least one pad, at least one connection of the at least one pad with a drive circuit directly or via another component, wherein the drive circuit is provided with external signals via an arrangement of operational contact areas during normal operation, the drive circuit comprises means for receiving external signals, means for modifying the external signals to form modified signals, and means for providing the modified signals for the matrix of picture elements during normal operation and during test mode, the at least one connection is connected with the means for receiving external signals, the arrangement of operational contact areas is connected to the drive circuit via the means for receiving external signal, the arrangement of test contact areas are larger than the arrangement of operational contact areas, and the arrangement of test contact areas is configured for providing signals for generating a test pattern during test mode, as recited in amended claims 42, and claims dependent thereon.

Thus, claims 42-45 are in condition for allowance.

Jenkins also does not teach or suggest a method for manufacturing a drive electronics of an optoelectronic device having a matrix of picture elements comprising a) providing a drive circuit comprising means for receiving external signals, means for modifying the external signals to form modified signals, and means for providing the modified signals for the matrix of picture elements during normal operation and during test mode, b) connecting control lines of the matrix of picture elements with output terminals of the drive circuit, wherein the output terminals are the means for providing

the modified signals, c) providing a first arrangement of contact areas, wherein the first arrangement of contact areas provides signals to the drive circuit during operation mode, d) connecting the first arrangement of contact areas with input terminals of the drive circuit, wherein the input terminals are the means for receiving the external signals, e) providing a second arrangement of contact areas, said second arrangement of contact areas being larger than the contact areas of said first arrangement of contact areas, wherein said second arrangement of contact areas serve for pattern generation during test mode, and f) connecting the second arrangement of contact areas with one or more of the input terminals of the drive circuit directly or via another component, wherein the one or more of the input terminals are also connected to the first arrangement of contact areas, as recited in amended claim 56.

Thus, claim 56 is in condition for allowance.

Withdrawal of this rejection is respectfully requested.

Claims 30-31, 37, 39-41, 49-52, 55 and 57-58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* in view of *Kim et al* (U.S. Patent No. 6,636,288, hereafter *Pat'288*). Applicant respectfully traverses the rejection.

Jenkins is discussed above. *Jenkins* does not teach or suggest the claimed subject matter. Particularly, *Jenkins* does not teach or suggest a drive circuit means for receiving external signal, means for modifying the external signal, and means for providing the modified signal to a matrix of picture elements, as set forth in the pending claims. *Jenkins* does not teach or suggest a first arrangement of contact areas connected to the means for receiving external signals and a second arrangement of contact areas also connected to the means for receiving external signals as set forth in the pending claims.

Pat'288 discloses a design of liquid crystal display. However, *Pat'288* does not teach or suggest a drive electronics as set forth in the pending claims as amended. The combination of *Jenkins* and *Pat'288* does not teach or suggest subject matter set forth in the pending claims.

Accordingly, *Jenkins* and *Pat'288*, alone or in combination, do not teach or suggest a drive electronics for driving an optoelectronic device with a matrix of picture

elements comprising a drive circuit, wherein the drive circuit comprises input terminals for receiving external signals, means for modifying the external signals to form modified signals, and output terminals for providing the modified signals for the matrix of picture elements during normal operation and during test mode, a first arrangement of contact areas connected with the input terminals of the drive circuit, wherein the first arrangement of contact areas serves for picture generation during normal operation; and a second arrangement of contact areas connected with one or more of the input terminals of the drive circuit directly or via another component, wherein the one or more of the input terminals are also connected to the first arrangement of contact areas, the contact areas of the second arrangement of contact areas are larger than the contact areas of the first arrangement of contact areas, and the second arrangement of contact areas serves for pattern generation during test mode, as recited in amended claim 30, and claims dependent thereon.

Regarding claim 50, *Jenkins* and *Pat'288*, alone or in combination, do not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact areas connected to the input terminal of the drive circuit, the drive circuit comprises the input terminal for receiving external signals, means for modifying the external signals to form modified signals, and means for providing the modified signals for the matrix of picture elements during normal operation and during test mode, and c) testing the picture elements of the matrix of picture elements, as recited in amended claim 50, and claims dependent thereon.

Claim 53 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* and *Pat'288* as applied to claim 50, and further in view of *Henley* (U.S. Patent No. 5,432,461, hereafter *Henley*). Applicant respectfully traverses the rejection.

Jenkins is discussed above.

Henley teaches a test apparatus having a light source and an electro-optical element to detect light radiated by the light source (Figure 1, column 3 line 55). However, *Jenkins*, alone or in combination with *Jenkins*, does not teach or suggest a testing method set forth in claim 50 on which claim 53 depends.

Accordingly, the combination of *Jenkins* and *Henley*, does not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact areas connected to the input terminal of the drive circuit, the drive circuit comprises the input terminal for receiving external signals, means for modifying the external signals to form modified signals, and means for providing the modified signals for the matrix of picture elements during normal operation and during test mode, and c) testing the picture elements of the matrix of picture elements, as recited in amended claim 50, and claims dependent thereon.

Claim 54 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Jenkins* and *Kim* as applied to claim 50, and further in view of *Kim* (U.S. Patent No. 6,486,927, hereafter *Pat'927*). Applicant respectfully traverses the rejection.

Pat'927 teaches an LCD testing system (Abstract). However, *Pat'927*, alone or in combination with *Jenkins*, does not teach or suggest a testing method set forth in claim 50 on which claim 54 depends.

Accordingly, the combination of *Jenkins* and *Pat'927*, does not teach or suggest a method for testing an optoelectronic device comprising a) making contact between an external control and an arrangement of test contact areas which are larger than operational contact areas, b) providing an input terminal of a drive circuit directly or via another component with input signals via the arrangement of test contact areas to generate a test pattern on a matrix of picture elements, wherein the drive circuit is provided with signals for picture generation during operation via the operational contact

areas connected to the input terminal of the drive circuit, the drive circuit comprises the input terminal for receiving external signals, means for modifying the external signals to form modified signals, and means for providing the modified signals for the matrix of picture elements during normal operation and during test mode, and c) testing the picture elements of the matrix of picture elements, as recited in amended claim 50, and claims dependent thereon.

Thus, claim 54 is in condition for allowance. Withdrawal of this rejection is respectfully requested.

New Claims

New claims 59 and 60 are in condition for allowance for being dependent on allowable claims 30 and 50 respectively. Allowance of claims 59 and 60 is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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